Jour. Soc. Sci. & Humm. 1994/1995: 1 & 2: 130-133

A NEW APPROACH IN TYPING THE PRINTING FORM VIA COMPUTER

M. M. EZAMUDDIN
Department of Computer Science
University of Karachi, Karachi-75270, Pakistan

In present paper a system is developed to fill different types of printed forms using computers. Generally, filling of printed forms are done on typewriters because in specified area forms it is often difficult to get the computer printed in the desired columns. A simple system is proposed here to overcome this problem.
The system developed here simulates a typewriter. Characters entered from the keyboard are printed with some additional facilities which are not available in typewriters. It is developed in assembly language, which involves a graphical interface and control of the printer.

INTRODUCTION

The earlier typewriters used purely mechanical link between the keyboard and the printer. They were slow and inefficient. Today's typewriters are fast, flexible, and smart.

In this paper we will place the full processing power of computer between keyboard and the printer, and we find that it is easy and natural to add features that go far beyond mechanical typewriters of past.

A number of word processing packages are available for microcomputers which provide much more facilities than an ordinary typewriter. However some facilities which are available in typewriter can not be available in the word processing programs.

The system discussed in this paper simulates a typewriter. Characters entered from the keyboard are printed with some additional facilities which are not available in typewriters. It is developed in assembly language, which involves a graphical interface and control of the printer.

Typewriter gives us direct control and access of the paper on which we are writing. In filling a pre-printed form with the help of a computer is not

easy, because it is difficult to asses on which line spacing and column margins should be given so that the required information could be exactly printed in appropriate spaces or boxes. Therefore a great deal of time is wasted.

To overcome such difficulty simulator (as discussed in this paper) is very useful, because the printer can be directly controlled, i.e., we can move paper backward, forward or we can adjust the head position on the desired location thereby easing the completion and saving time.

The package discussed provides a number of additional facilities that were not available in typewriter, including:

- Bold printing
- Italic printing
- Bold and italic printing
- Compressed printing
- Ehnanced printing
- Bold compressed printing
- Italic compressed printing
- Bold and Italic compressed
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Bold enhandced printing
Italic enhanded printing
Bold and italic enhanced printing
Underline printing
Line spacing
Single line
One and a half line
Double line printing

We can move a paper in both directions. i.e., backward and forward by selecting the appropriate key available on control panel.

We make the use of appropriate key to move paper backward of forward. The linefeed depends on current lien spacing. i.e., if double line spacing is set then each linefeed will move accordingly backward or forward. We can scroll the complete page by pressing the eject key.

The screen is divided as follows:

- Top left of screen displays current row and column.
- Upper half of screen represents simulation of the printing. Whatever typed on printer it displayed in this area.
- The rest area is comprised of keyboard panel which are illustrated as follows:
  - Left hand side represents the keyboard from which the pressing effects of any keyboard is displayed.
  - Right hand side is the control panel, which shows the typing style and the mode.
  - The below part displays messages and also displays the error massage of the printer.

Following are the list of keys displayed on control panel. These keys can activated by pressing simultaneously the <Alt> key and the highlighted character, or by using mouse.

First row	:	Set print style (bold, italic, bold-italic, normal).
Second row	:	Set character width (compressed, enhanced, normal.
Third row	:	Underline, normal and initalize the printer.
Fourth row	:	Set lien spacing (single, one and a half, double).
Fifth row	:	Movement control (eject the page, linefeed, backward).
Sixth row	:	Set typing mode (direct. buffer).
<F1>		Activate the help screen.
<Esc>		Abort the program by pressing "Y".

There are two types of modes available in this method.

1. Direct typing
2. Buffer typing

1. Direct typing: In this method the printer acts typewriter. Every character is printed directly on printer as well as on the screen. The printer must be on-lien during this mode. When the printer is not on-line, it gives error message. In this mode we cannot erase but overwrite by using the backspace-key.

2. Buffer typing: In this mode one can write a complete line. In this editing facilities are also available. After each line a message is displayed on the screen.

Message > Press any key to enter next line

This message is incorporated to provide the ability to give control commands and switch mode.

A help screen is always available by pressing the **<F1>** key, which shows the control panel keys.

LOGIC AND STRUCTURE

The title is displayed on screen by pressing character <C> the main screen is displayed and the mouse is activated.

The program checks that the command is given by the mouse or by keyboard.

It the command is entered by the mouse then the appropriate action will be activated. After execution, the next command is checked.

When a key is pressed its scan-mode and asc-code are saved, if asc-code is null, i.e., if extended (Alt) key is pressed then the given command from keyboard is processed.

Direct Mode

When a user press a simple key (not the command key) then the character is displayed on the screen. The cursor goes to the next column position.

When the character <Esc> is pressed it gives the message to confirm. When the user presses <Y> then the program exits, otherwise goes to the main loop and the appropriate button of character is displayed.

When the character <Enter> is pressed the return and linefeed is sent to the printer. The current row is increased and displayed.

When any character is pressed except the above two the character itself is printed and it calculates the character length and give one space to move ahead for the next printing position.

Now after that, number of characters printed in the line are checked and if it is more than 63 characters, i.e., the right margin, then linefeed is added automatically. The new row and column are set and displayed on the screen, and it is ready to receive the next character or command.

String mode

When user presses the buffer mode key, the message area is activated. Now in this line the user can write. When this line reaches to 63 characters, press return. This line will be displayed on the screen an simultaneously printed on the printer.

After printing the line, a message is displayed in the message area, whether user wants to remain in the buffer mode or change the mode, or wants to give a print control command. If any key is pressed (other than the command key), the position of cursor, row and column are displayed on the screen. If command is given or mode is changed, appropriate action will be performed.

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